

**Amendments to the Claims**

*Claims 40 and 55 are amended to correct typographical errors. Please cancel Claims 1-39, 45, 52, 59, 63-89. The Claim Listing below will replace all prior versions of the claims in the application:*

**Claim Listing**

- 1-39. Canceled.
40. (Currently Amended) A method of controlling a cryopump, the method comprising:  
determining if a temperature ~~sensors~~ sensor is functioning properly; and  
responding to a temperature sensor which is not functioning properly by  
directing a purge valve to open.
41. (Original) A method according to Claim 40 wherein the purge valve is either a cryo-purge valve coupled to a cryopump or an exhaust purge valve coupled to an exhaust line of a cryopump.
42. (Original) A method according to Claim 40 wherein the purge valve is maintained open for a period of time.
43. (Original) A method according to Claim 42 wherein maintaining the purge valve for a period of time further includes preventing any other system from closing the purge valve.
44. (Original) A method according to Claim 42 wherein directing the purge valve to open further includes delivering purge gas into a cryopump without initiating an entire regeneration process.
45. Canceled.

46. (Original) A method according to Claim 40 directing a purge valve to open further includes releasing a normally open purge valve.
47. (Original) An electronic controller which monitors one or more temperature sensors coupled to a cryopump, the controller programmed with instructions for:
  - determining an operating status of one or more temperature sensors coupled to a cryopump; and
  - if one of the temperature sensors does not appear to be operating, initiating a safe purge.
48. (Original) An electronic controller according to Claim 47 wherein a safe purge includes maintaining a purge valve open for a limited period of time.
49. (Original) An electronic controller according to Claim 48 wherein the purge valve comprises at least one of a cryo-purge valve coupled to the cryopump, or an exhaust purge valve coupled to an exhaust line of the cryopump.
50. (Original) An electronic controller according to Claim 47 wherein the controller ensures that the safe purge cannot be aborted.
51. (Original) An electronic controller according to Claim 47 wherein the safe purge further comprises delivering purge gas into the cryopump without initiating an entire regeneration process.
52. Canceled.
53. (Original) An electronic controller according to Claim 47 wherein the safe purge further includes releasing a normally open purge valve.

54. (Original) A cryopump comprising:
  - a purge valve coupled to the cryopump;
  - one or more temperature sensors coupled to the cryopump; and
  - an electronic controller coupled to the cryopump, the controller configured to determine whether any of the temperature sensors are malfunctioning, the controller initiates a safe purge when one of the temperature sensors has malfunctioned.
55. (Currently Amended) A cryopump according to Claim 54 wherein the safe purge includes holding a purge valve opened open for a period of time.
56. (Original) A cryopump according to Claim 54 wherein the purge valve comprises at least one of a cryo-purge valve coupled to the cryopump, or an exhaust purge valve coupled to an exhaust line of the cryopump.
57. (Original) A cryopump according to Claim 54 wherein the controller ensures that the safe purge cannot be aborted.
58. (Original) A cryopump according to Claim 54 wherein the safe purge further comprises delivering purge gas into the cryopump without initiating an entire regeneration process.
59. Canceled.
60. (Original) A cryopump according to Claim 54 wherein the safe purge further includes releasing a normally open purge valve.

61. (Original) A system for controlling a cryopump, the system comprising:
  - a means for determining whether a temperature sensor coupled to a cryopump is failing; and
  - a means for responding to a temperature sensor which fails by opening a purge valve.

62-89. Canceled.